Joshua P. Harringmeyer
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EDUCATION

Boston University   **September 2018 – present**
Ph.D. Candidate in Earth and Environment – Advisor, Cédric G. Fichot
- NASA Future Investigators in Earth and Space Science and Technology (FINESST) Grant Recipient
- Lovison-Golob Graduate Student Research Funding Recipient
- Boston University Dean's Fellowship
- 2019 Earth & Environment Outstanding Teaching Fellow Award

Williams College   **September 2012 – June 2016**
B.A. with Honors in Geosciences and Physics
- Sigma Xi Scientific Research Honor Society Member

RESEARCH EXPERIENCE

Boston University – Boston, Massachusetts, USA

NASA EVS-3 Delta-X Project   April 2019 – Present
- Field campaign measuring in-water constituents and radiometry for comparison with airborne imagery
- Development of hyperspectral algorithms for remotely inferring particle and organic matter properties
- Experimental and modeling characterization of material export from eroding and stable coastal marshes

Santa Monica Bay Wastewater Diversion Ocean Color Imagery Analysis   April 2019 – June 2021
- Analyzed in-situ biogeochemical and optical data to characterize wastewater effluent
- Developed hyperspectral algorithms to remotely characterize waster-impacted dissolved organic matter

WISE (WaterSat Imaging Spectrometer Experiment) Manicouagan Campaign   August 2019 – Present
Collaboration with University of Quebec at Rimouski
- Surface water sampling for geochemical and optical properties at Manicouagan Peninsula (QC, Canada)
- Radiometry from a small research vessel for calibration of hyperspectral airborne imagery

Plum Island Estuary Bio-Optical Time Series   June 2019 – October 2021
- Conducted in-situ biogeochemical and optical measurements and laboratory analysis of coastal water
- Characterized tidal and seasonal variability of estuarine radiometric and environmental parameters

Williams College – Williamstown, Massachusetts, USA

Honors Thesis: Ocean Wave Modeling for Coastal Boulder Transport   May 2015 – May 2016
Written dissertation and public defense – Supervised by Professor Rónadh Cox
- Numerical modeling of ocean wave evolution during shoaling using higher order spectral method
- Field photogrammetry using structure-from-motion; creation of 3D models in Agisoft Photoscan

PUBLICATIONS

O. Cronin-Golomb, **J. Harringmeyer**, M. Weiser, X. Zhu, N. Ghosh, A. B. Novak; I. Forbrich, C. G. Fichot, *"Modeling benthic solar exposure (UV and visible) in dynamic coastal systems to better inform seagrass habitat suitability,"* Sci. of the Total Env., *Pub. in Press* (2021).

J. Harringmeyer, K. Kaiser, D. R. Thompson, M. M. Gierach, C. L. Cash, C. G. Fichot, *"Detection and Sourcing of CDOM in Urban Coastal Waters With UV-Visible Imaging Spectroscopy y,"* Front. Environ. Sci. **9**: 1–21 (2021). doi:10.3389/fenvs.2021.647966.

J. Brennan, C. Clancy, **J. Harrington**, R. Cox, F. Dias. *"Analysis of the pressure at a vertical barrier due to extreme wave run-up over variable bathymetry,"* Theoretical and Applied Mech. Letters 7 (2017) 269- 275.

PRESENTATIONS

Harrington, J.; Kaiser, K.; Thompson, D.; Gierach, M.; Cash, C.; Fichot, C., 2020, "Can imaging

spectroscopy facilitate the detection of wastewater effluent in coastal waters?" Abstract ME24C-0111 submitted to Ocean Sciences Annual Meeting, AGU, San Diego, CA 16-21 Feb.

Harrington, J.; Cox, R.; Brennan, J.; Clancy, C.; Dias, F. 2016, "Modeling Non-linear Ocean Wave in Coastal Settings": Abstract NH31A-1904 at 2016 Fall Meeting, AGU, San Francisco, CA, 12-16 Dec.

Harrington, J. and Cox, R., 2015, "Changes in Supratidal Coastal Boulder Deposits (Aran Islands, Ireland) Measured Using Structure-From-Motion Photogrammetry": Geologic Society of America Abstracts with Programs Vol. 47, No. 7, p. 358. *Presenter.*

TEACHING EXPERIENCE

Boston University Ph.D. Teaching Fellow–Envi. Science 591: Bio-Optical Oceanography   Fall 2019
- Taught experiential coursework including field investigations and MatLab programming
- Trained undergraduate students in laboratory optical and geochemical analysis

Boston University Ph.D. Teaching Fellow–Envi. Science 107: Intro to Earth Systems   Fall 2018
- Prepared and taught laboratory exercises on the geosphere, atmosphere, and hydrosphere
- Led examination review sessions and offered tutoring to students outside of laboratory hours

2019 Earth & Environment Outstanding Teaching Fellow Award – Boston University

Williams College Teaching Assistant for Physics 132: Electromagnetism   Spring 2014 and 2016
Williams College Teaching Assistant for Geosciences 104: Oceanography   Spring 2015

INDUSTRY EXPERIENCE

Senior Environmental Technician–Geosyntec Consultants   August 2017 – August 2018
Groundwater Resources Action Group–Acton, MA
- Planned and conducted environmental sampling of groundwater and sub-slab soil gas
- Oversaw remediation, including the installation of soil vapor extraction systems

Staff Scientist–RPS Iris Environmental   August 2016 – August 2017
Site Investigation and Remediation Group–Oakland, CA
- Wrote remedial work plans, closure reports, and waste soil characterizations
- Managed and reviewed soil, groundwater, and soil gas laboratory data for inclusion in reports

RELEVANT COURSEWORK

Boston University
> Marine Biogeochemistry; Aquatic Optics; Advanced Topics in Remote Sensing; Multivariate Analysis; Dynamic Landsurface Hydrology; Biogeoscience Practicum; Biogeoscience Colloquium; Estuaries and Nearshore Systems

University of Maine
> Ocean Optics Summer Class 2019 – Calibration & Validation for Ocean Color Remote Sensing

Williams College
> **Geosciences:** Oceanography; Geographic Information Systems; Structural Geology; Mineralogy and Geochemistry; Hydrogeology and Environmental Geochemistry; Igneous Petrology and Volcanology Sedimentology; Planets and Moons; Global Tectonics and Mountain Building

> **Physics:** Multivariable Calculus; Statistics and Data Analysis; Modern Physics; Math Methods for Scientists (Differential Equations); Electricity and Magnetism; Waves and Optics; Electromagnetism and Condensed Matter; Stat. Mechanics and Thermodynamics; Protecting Information; Condensed Matter Physics; Introductory Python; Quantum Physics

OTHER SKILLS

Programming: R, MatLab, Mathematica
GIS and 3D Data Visualization Applications: ArcGIS, QGIS, SeaDAS, Google Earth Engine